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Health-Seeking Behaviour Related to Selected Dimensions of Wellness in Community-Dwelling Older Adults

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Abstract

Older people generally prefer to ‘stay-put' in their own homes. Informed by the Seven Dimensions of Wellness, a component of the International Council on Active Ageing (ICAA) Model, measures of physical function (i.e., physical), fall risk (i.e., environmental), and psychosocial factors (i.e., emotional, spiritual, and social) related to wellbeing were selected as outcomes. It is assumed that they intersect to influence the health-seeking behaviour of older adults ageing-at-home. The primary objective of this cross-sectional design study was to investigate the relationship among dimensions of well-being, including physical function, fall risk, psychosocial factors, and awareness of community support services, with health-seeking behaviour in community-dwelling older adults. The secondary objective was to determine if there were differences in health-seeking behaviour between men and women or between age groups, i.e., less than 75 years old, and 75 years and older. A sample of 99 older adults living independently at home in the city of London, ON, aged ≥ 65 years, ambulatory (with/without gait aid) and without executive function impairment were recruited. Data were analyzed using multiple linear regression. No significant relationship was found between health-seeking behaviour and the five factors grounded in the Seven Dimensions of Wellness. Health-seeking behaviour had a significant positive relationship with awareness of community support services. No difference in health-seeking behaviour was found between men and women or between age groups.

Keywords

Health-seeking behaviour, older adults, dimensions of wellness, ageing-in-place, community support services

Summary for Lay Audience

The primary purpose of this study was to understand if health-seeking behaviour, or seeking out help because of health, in a group of older adults living at home was related to factors relevant to wellbeing (e.g., physical function, fall risk, and psychosocial factors such as emotion/resilience and spiritual/social well-being); and awareness of community support services. The secondary purpose was to determine if there was a difference in health-seeking behaviour between men and women or between age groups, i.e. less than 75 years old, and 75 years and older. Informed by the Seven Dimensions of Wellness, a component of the International Council on Active Ageing (ICAA) Model, measures of physical function (i.e., physical), fall risk (i.e., environmental), and psychosocial factors (i.e., emotional, spiritual and social) related to wellbeing were selected as outcomes. A sample of 99 older adults was recruited who met the inclusion criteria and agreed to participate. Study participants were older adults living at home in the city of London, ON, aged ≥ 65 years, ambulatory (with or without gait aid), and did not report memory impairment. Health-seeking behaviour was assessed using the 13 Healthcare-Seeking Items scale (Sarkisian, 2002). Factors assumed to be related to health-seeking behaviour were measured as follows: The Late-Life Function Instrument (i.e., physical function); Fall Efficacy Scale-International (i.e., awareness of fall risk); Connor Davidson Resilience Scale (i.e., resilience); The Duke Social Support Index (i.e., social well-being), Spiritual Well-being Scale (i.e., spiritual well-being) and a self-generated list naming local community support services for older adults (i.e., awareness of community support services). Scores from the outcome measures were analyzed using multiple linear regression analysis to determine any relationship(s). No significant relationship was found between health-seeking behaviour and the five factors grounded in the Seven Dimensions of Wellness. Health-seeking behaviour had a significant positive relationship with the awareness of community support services. No difference in health- seeking behaviour was found between men and women or between age groups, i.e. less than 75 years old, and 75 years and older.

Co-Authorship Statement

This thesis was developed and written under the expert guidance and supervision of Dr. Denise Connelly. Her patience and expertise were the key elements in developing and completing the study. Dr. Connelly will be a co-author of arising publications. Her constant feedback and encouragement helped with maintaining motivation and completing the research project. Her support and encouragement are truly appreciated. I would also like to recognize the feedback and support of my advisory committee throughout the research project.

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1. Introduction

1.1 Health-seeking behaviour and its significance

Older people generally prefer to ‘stay-put' in their own homes (Sixsmith et al., 2014). According to the 2016 census, 93% of Canadian adults over the age of 65 and 70% of those older than 85 years are living in their own homes (Statistics Canada, 2016). This preference is referred to in the literature as ‘ageing-in-place’. Ageing-in-place is defined as "the ability to live in one's own home and community safely, independently and comfortably regardless of age, income, or ability level” (The U.S. Centers for Disease Control and Prevention, 2009, p.1).

Older people want choices about where and how they age in place (Wiles et al., 2011). The home environment plays a significant role in developing and supporting personal strategies for healthy ageing (Callahan, 1993). Ageing-in-place is seen as an advantage in terms of a sense of attachment or connection, and feelings of security and familiarity concerning both home and community (Wiles et al., 2011). Ageing-in-place is related to a sense of identity both through independence and autonomy, and caring relationships and roles in the places people live (Wiles et al., 2011). Previous studies with older adults in Sweden described that home is a place of meaning (Dahlin-Ivanoff et al., 2007) and is an important link to self-perceived health in ‘old age’ (Sixsmith et al., 2014).

Health or care-seeking behaviour has been defined as "any action undertaken by individuals who perceive themselves to have a health problem, or to be ill, for the purpose of finding an appropriate remedy" (Ward et al., 1997, p. 21). Health-seeking behaviour is ‘measured’ in terms of ‘health service use’ by inference that health-seeking behaviour takes place as evidenced by the existence of multiple health services and the demand for primary care services (Cornally & McCarthy, 2011).

A study conducted by Ihaji et al. (2014) stated that health-seeking behaviour was motivated by elderly individuals' decision-making processes. This study reported that decision-making processes of older adults were informed by community norms and expectations, that is, social expectations of behaviour appropriate for men and women, differences in rights, power in society, and access to resources for women and men, health-related behaviour, as well as education, gender and church affiliation. Sarkisian et al. (2002) highlighted that having lower expectations for health with ageing

was independently associated ($p < .001$) with the belief that it is ‘not very important’ to seek health care for age-associated conditions. In conclusion, these older adults were unaware of the potential benefits of seeking health care to address their age- related health problems (Sarkisian et al., 2002).

This study was designed to investigate selected dimensions that may influence service use by older adults; that is, to understand why there is a gap between those older adults who require health services and the ample variety and number of available services for older adults to promote ageing-at-home. The gap between need and service use is hypothesized to be influenced by several factors anticipated to be related to health-seeking behaviour by community-living older adults. These factors are conceptualized as ‘a bridge' between older adults who expressed the desire for ageing-at-home and seeking the services they need to remain living in the community. The hypothesized factors include physical function, fall risk, psychosocial factors (resilience, social, and spiritual well-being), and awareness of community support services informed by the Seven Dimensions of Wellness theoretical model (International Council on Active Ageing, 2020).

1.2 Theoretical Model

This research study was informed by the Seven Dimensions of Wellness, part of the ICAA Model, and includes physical, social, spiritual, vocational, emotional, environmental, and intellectual dimensions (ICAA, 2020). Wellness is defined as the ability to understand, accept and act upon the capacity to lead a purpose-filled and engaged life (ICAA, 2020). The seven dimensions are inter-dependent and provide a framework to lead a healthy life and successful ageing. There are various wellness models in the literature, however, a recent review by Fullen (2019) stated that most wellness frameworks, such as Hettler’s (1976) six dimensions of wellness and Myers and Sweeney’s (2005) indivisible self-model, were not developed with older adults in mind. In another review by Roscoe (2009), it was noted that the participant samples used to derive the most common wellness models consisted of college students, employees, or participants in wellness programs. Therefore, the Seven Dimensions of Wellness proposed by the ICAA was chosen for healthy ageing. The Seven Dimensions of wellness as proposed by the ICAA (2020) is summarized in Table 1.

Table 1: Seven Dimensions of Wellness as proposed by the International Council on Active Ageing (2020).

Dimension	Definition
Physical	Physical wellness is necessary to achieve the goal of living independently. To achieve physical wellness and maintain independence, lifestyle choices that can maintain and improve health and functional ability must be undertaken.
Emotional	The awareness of one's feelings can help create a balance in life. Coping with challenges and behaving in trustworthy and respectful ways is a sign of emotional wellness.
Intellectual	It is important to keep the mind alert and interested by pursuing creative and intellectually stimulating activities.
Vocational	The ability to contribute to personal wellbeing and society using one's skillset is valuable. Older adults have significant contribution to the society as experienced mentors and volunteers.
Social	Social interactions with friends and family are important to maintain health. Continuous efforts must be made to maintain social wellbeing by participating in various social activities.
Spiritual	A life filled with meaning and purpose is essential for wellbeing and connection to the larger world. It is often guided by personal values.
Environmental	It is essential to bring individuals into the natural environment and encourage active living through urban and property designs emphasizing walking paths and similar options.

1.3 Statement of Thesis Purpose and Objectives

There is available literature describing the lack of utilization of community support services and the desire of older adults to age-in-place. Understanding the health-seeking behaviour of older adults in relation to their physical function, resilience, fear of falling, spiritual/emotional well- being and awareness of community support services may benefit older adults by providing a possible explanation about why, despite having the desire to age-in-place along with the availability of community support services to do so, older adults are not utilizing the community support services to prolong ageing-in-place.

I. The primary objective was to determine any relationship(s) between five factors from the Seven

Dimensions of Wellness (i.e., physical function, fall risk, resilience, social wellbeing, spiritual wellbeing) and awareness of community support services with health- seeking behaviour of community-dwelling older adults.

II. The secondary objective was to determine if there were differences in health-seeking behaviour between men and women or between age groups, i.e., less than 75 years old, and 75 years and older.

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2. Literature Review

The ability to age in one's home is the desire of many older adults. According to the 2016 census, 93% of Canadian adults over the age of 65 and 70% of those older than 85 years are living in their own homes (Statistics Canada, 2016). Home has a sense of purpose and attachment. Gawande (2014) reflects in his book "Being Mortal" about how the transition from home to a nursing home not only takes a toll mentally but physically as well. It breaks the person's existing social circle, pushing them into an entirely new environment at a phase in their life when forming new bonds and establishing a new purpose becomes difficult (Gawande, 2014).

The purpose of this study was to better understand health-seeking behaviour and its possible implications for ageing-in-place. Extensive research has shown that older adults want to age in their own homes (Costa-Font et al., 2009; Dahlin-Ivanoff et al., 2007; Sixsmith et al., 2014; Wiles et al., 2011). However, there is a gap between the services needed and the services used. There are extensive services available to assist older adults to be safer and more comfortable in their own homes. These services aim to assist older adults as they age in the community, but previous studies show an underutilization of these services by older adults (Ploeg et al., 2017; Strain & Blandford, 2002). These statements reflect a gap between the need and use of these services. A better understanding of the health-seeking behaviour of older adults may serve to better understand this gap to provide more information about why older adults are not using available community support services. Health-seeking behaviour is a complex concept and to be able to form a better understanding, we adopted the Seven Dimensions of Wellness (International Council on Active Ageing, 2020) framework to explore this multi-dimensional concept.

The literature review will focus on the concept of health-seeking behaviour, and the utilization/awareness of community support services, and ageing-in-place which are the central concepts of this study. The review will also focus on the importance of the hypothesized variables, i.e., physical function, falls, and psychosocial factors, informed by the Seven Dimensions of Wellness, a component of the International Council on Active Ageing (ICAA) Model.

2.1 Health-seeking behaviour

Health or care-seeking behaviour has been defined as "any action undertaken by individuals who

perceive themselves to have a health problem, or to be ill, for the purpose of finding an appropriate remedy" (Ward et al., 1997, p. 21). The Nursing Outcomes Classification (2010) defines health-seeking as personal actions to promote optimum wellness, recovery and rehabilitation. According to Cornally and McCarthy (2011), the definition provided by the Nursing Outcomes Classification appears to propose that health-seeking behaviour can occur with or without a health problem and covers the spectrum from potential to actual health problems. Currently, health-seeking behaviour is 'measured' in terms of 'health service use' by inference that health-seeking behaviour takes place as evidenced by the existence of multiple health services and the demand for primary care services (Cornally & McCarthy, 2011).

Poor health does not have to be inevitable in old age (McMurdo, 2000). Primary health care interventions have the potential to considerably reduce the consequences of ill-health and improve the quality of life of older people (Suzman et al., 1992). However, according to a previous study, older adults held little belief in seeking health care for age-associated conditions because they expected that declining physical health and cognitive function comes with ageing (Sarkisian et al., 2002). Sarkisian et al. (2002) highlighted that having lower expectations for health with ageing was independently associated ($p < .001$) with the belief that it is 'not very important' to seek health care for age-associated conditions. In conclusion, these older adults were unaware of the potential benefits of seeking health care to address their age-related health problems (Sarkisian et al., 2002). Ploeg et al. (2017) also highlighted in her study that despite the availability of various community support services for older adults and their caregivers, these services are often accessed at a low rate.

2.1.1 Health-seeking behaviour in older adults

Health-seeking behaviour is an important component of the overall wellbeing of an individual especially in old age, with declining mental and physical functions. Health-seeking behaviour enables an individual to take control of their health, whether it is a perceived health concern or an actual illness. The ability to recognize the need to access a health care service to maintain optimal health is essential.

'Age-Friendly World' is a concept proposed by the World Health Organization (WHO) that helps people stay connected and healthy and provides support to those in need (WHO, 2007). However, there

are challenges to this concept in terms of identifying people needing assistance before they require extensive care packages and reaching non-users of specific services (Canvin et al., 2018). Older adults are considered regular users of services; however, they often do not make good use of available health and social care due to barriers to access, denial, of need or lack of information (Howse et al., 2005; Walters et al., 2001).

Health-seeking behaviour is based on the person's ability to perceive themselves to have a health problem and seek an appropriate remedy for it (Ward et al., 1997). However, a study conducted by Canvin et al. (2018) reported that older adults were not 'denying' or 'managing' their health care needs, rather they did not perceive any needs. The lack of perception was not only the case for 'healthy' participants but also for participants who described themselves to be in risky circumstances such as one participant who, despite a recent stroke, several falls, and the inability to get out of bed, saw his walking cane as temporary and did not have any other assistance aids at home (Canvin et al., 2018). Sarkisian et al. (2002) provided one reason for this lack of perception stating that older adults viewed decline as an inevitable part of ageing, and modified their expectations, behaviour, and environment.

Along with the lack of perception regarding one's arising health needs, it was also noticed that even where participants acknowledged a need for assistance, they did not want to perceive themselves or be perceived as someone who needed or received assistance (Canvin et al., 2018). This desire not to be perceived as someone requiring assistance was also driven by the fear of being seen as a 'burden' to society. Free and low-cost services were not being accessed by some participants in the study due to not wanting to be labelled as a 'charity case' or 'scrounger'. Some participants perceived assistance as synonymous with the inability to cope and compromising independence; they managed their own needs rather than asking for assistance (Canvin et al., 2018). The study conducted by Canvin et al. (2018) concluded that the process of seeking assistance depended on older adults' acknowledgement of decline and its perceived impact on their usual activities and independence, their preparedness to be a recipient of assistance, and opportunities to assert their need.

Walters et al. (2001) highlighted key concepts for older adults in terms of their health-seeking behaviour. The concepts they discussed were withdrawal, resignation, and low expectations which

overlap with one another. The authors defined withdrawal as the process of isolating oneself from society in preparation for dying (Walters et al., 2001). The older adults felt 'resigned' to their situation and despite identifying a problem with their health, they did not reach out for treatment. Low expectations, as discussed by previous studies (Sarkisian et al., 2002; Canvin et al., 2018), were associated with the belief that ageing is associated with declining health.

Health-seeking behaviour, although a very important concept for healthy ageing, has various barriers and challenges which hinder the process of proper health care utilization. The barriers to health-seeking behaviour are not only harmful in terms of physical and mental health but affect the individual's capacity to age in place as well. Hence, it is essential to explore the health- seeking behaviour of older adults, to get a better understanding of the factors that influence health-seeking behaviour and to better guide the efforts to overcome these barriers.

2.1.2 Factors related to engaging in health-seeking behaviour

Health-seeking behaviour is influenced by several factors that can either act as facilitators or barriers to one's engagement in health-seeking behaviour. Factors such as socioeconomic status, gender, age, education, type and severity of illness, and beliefs and perceptions play a significant role in the health-seeking behaviour of an individual.

Socio-economic status

The ability to afford health care services and accessibility of health care services depends on the socio-economic status of an individual and thus is an important factor related to engaging in health-seeking behaviour. Studies have shown that individuals with low socioeconomic status are less likely to initiate health-seeking behaviour (Ahmed et al., 2009; Zhang et al., 2007). A study focused on the role of socioeconomic status in comparison to gender and age and found that socioeconomic status was a more influential factor than age and gender, for an individual's health-seeking behaviour (Ahmed et al., 2005). Ladha et al. (2009) studied a population of older adults in Karachi, Pakistan and found socioeconomic status to be a significant barrier for health- seeking behaviour. Socio-economic status has a strong influence over one's decision to engage in healthcare-seeking behaviour as it affects the individual's ability to afford health care services as well their accessibility especially if living in rural

areas with the cost of transportation as an added expense. Socio-economic status also has an effect on one's education level, which is another factor that influences health-seeking behaviour (Ladha et al., 2009).

Gender

A review conducted by Megha et al. (2017) indicated that the incidence of health-seeking behaviour is largely dependent upon the sex of the individual. According to the authors, the difference in the health-seeking behaviour between the two sexes is dependent upon several factors which differ amongst men and women. A study conducted by Ihaji et al. (2014) stated that health-seeking behaviour was motivated by older adult individuals' decision-making processes as informed by community norms and expectations. That is, social expectations of behaviour appropriate for men and women, differences in rights, power in society, and access to resources for women and men, health-related behaviour, as well as education, gender and church affiliation. One of the factors is the cost of the treatment. A study by Johansson et al. (2000) stated that men delayed their treatment due to the fear of cost and were also found to disregard symptoms until the disease progressed further to a crucial stage. A study conducted by Yamasaki- Nakagawa et al. (2001) focused on the difference in terms of the services accessed when an illness was perceived by the individual. The authors stated that women tended to delay their visit to public health services by visiting traditional healers, whereas men went to public health services. In terms of seeking health care for mental health problems, Mackenzie et al. (2006) found that females were more likely to get medical care for mental health problems compared to men. Megha et al. (2017) concluded in their review that when it comes to consciously seeking medical care in terms of physical conditions, men discussed their health care issues more often than women and it seemed this was embedded in internal factors such as fear of being seen as weak and unfit. The internal factors driving women's choice of seeking assistance for health- related issues was influenced by social factors such as isolation by the family, being ousted by society.

Age

Yerpude et al. (2014) studied the aged population of South India and found that although the majority of older adults reached out for treatment, compliance to the treatment was low. Abebe et al. (2010) conducted a study to explore the characteristics that influenced health-seeking behaviour in individuals suffering from tuberculosis and found that age did not play a significant role. However, it

must be noted that the health-seeking behaviour characteristics explored in this study were only related to one specific health condition. In contrast to the results presented by the previously mentioned studies, a study done by Macfarlane et al. (2003) highlighted that the likelihood of seeking treatment for health-related issues is directly related to age; i.e., it increases with age. Jacobson et al. (2013) studied health-seeking behaviour in middle-aged and older men concerning urinary symptoms and found that older men were more likely to seek treatment as compared to middle-aged men for urinary symptoms experienced in the past year. In summary, findings from previous literature are equivocal; health-seeking behaviour was found to decrease with age in some studies and in other studies health-seeking behaviour increased with age.

Education

A higher level of education has been linked to higher levels of engagement in health-seeking behaviour. Megha et al. (2017) found that individuals' level of education influenced his/her choice of treatment, whether to choose home remedies or professional help, as well as the time gap between the occurrence of the first symptom and seeking help. Studies conducted by Peng et al. (2010) and Zhang et al. (2007) found education levels to be significantly associated with health-seeking behaviour as individuals who achieved higher education engaged in more health- seeking behaviour, and individuals with fewer years of education engaged less in health-seeking behaviour. However, according to Megha et al. (2017), in rural communities, cultural beliefs and practices often overshadow other factors like education and lead to self-care, home remedies and consultation with traditional healers. The authors further concluded that for mental health issues, the stigma associated with mental illness became a barrier to health-seeking behaviour regardless of educational attainment.

Type and severity of illness

Illness and the associated pain/difficulty has a very influential role in health-seeking behaviour by individuals. Individuals sought medical care more often when the illness was perceived as severe, did not improve or worsened over time (Webair & Bin-Gouth, 2013). A study conducted in an African American population reported that healthcare-seeking behaviour was initiated after all measures to relieve symptoms had failed; participants stated perceived disability, or unrelieved symptoms, were internal motivations to initiate health-seeking behaviour (Plowden & Miller, 2000). The severity of illness has a significant effect on health-seeking behaviour with more initiation of

health-seeking behaviour if the illness is perceived to be severe (van der Ham et al., 2011).

Access to services and perceived quality of the service

Older adults are less likely to engage in complex travel or travel long distances to obtain access to certain services. Accessibility becomes an important aspect in terms of engaging in health- seeking behaviour. In old age, the declining functional capabilities increase the complexities of trying to attain services as well as influence the level of satisfaction with the service (National Council on Disability, 2009). Along with accessibility, the perceived quality of care is another factor that is fundamental to health-seeking behaviour in older adults which may also include their concerns for safety and quality of care. In a study conducted by Gallagher and Truglio- Londrigan (2004), participants reflected that while accessing support services they had been treated without care or compassion. The study also highlighted the 'cookie-cutter' nature of the services where participants mentioned that most services seemed to be similar without much accountability for the diversity of issues faced by the ageing population. These factors may act as deterrents to health-seeking behaviour because older adults perceive that the services would not meet their individual needs.

2.1.3 Proposed factors related to dimensions of wellness and health-seeking behaviour in older adults

Physical Function

Physical function is defined as the ability to perform the basic actions, requiring mobility, strength, and endurance, which are essential for maintaining independence and carrying out daily activities (Painter et al., 1999). Ageing is associated with a decline in most physiological systems which leads to limited physical capacity (Manini & Pahor, 2009). Chale-Rush et al. (2010) state that routine physical activity may be a determinant of physical function performance in older adults. Reduction in physical function can lead to loss of independence and the need for long-term care (Beswick et al., 2018). However, there are various community support services available that provide physical activity programs tailored for older adults. A systematic review by Beswick et al. (2018) focused on community-based physical activity interventions to improve the physical function and maintain independent living in older adults. The review, which included 89 randomized controlled trials assessing community-based multifactorial interventions in older adults, showed that interventions can

help older adults to continue living at home (Beswick et al., 2008). These interventions prevented the need for long-term care and reduced the rate of falls (Beswick et al., 2008). However, studies have shown that in actuality, older adults rarely access community support services (Ploeg et al., 2017; Strain & Blandford, 2002). The present study hypothesized that awareness and understanding of the level of one's physical function would motivate older adults to reach out for help. Awareness of one's physical function may assist the individual in understanding that they require assistance to manage their physical function and community support services are the resources they require to aid them in maintaining/improving physical function.

Falls

Home and environment are important to how old age is constructed and experienced (Kontos, 2000). The link between the functional capacity of an older adult and their living environments often weakens with age (Meyer & Spear, 1985). According to Lawton (1982), when older adults are no longer able to maintain a balance between their functional capacity and their environment, there are three main options to improve the situation as follows: to increase the capability of the individual to cope with their situation; to modify the individual's current housing environment to make it more manageable, and to move the individuals to a new residence that better fits their functional capacity. As mentioned earlier, the option to modify one's current housing environment to make it manageable is always the preferred choice as it allows an older adult to stay in their own home. For most older adults who state that they prefer to age-in-place at home within their community, the environment within their home may afford a setting that is accommodating to age-related changes in health and functioning (Pynoos et al., 2010). However, it should be taken into consideration that although the environment may provide accommodation to age-related changes, an older adult and/or their care providers must be actively engaged to bring about those changes in their environment. Without making changes in the environment, elements of the home may become fall risks with age-related decline in physical function and an older adult may not be able to maintain independent living in their home environment.

Falls and fear of falling are factors associated with the environment and the reduction of physical function. Falls themselves and the belief that one might fall can result in self-restriction of mobility and activity, feelings of helplessness, loss of confidence, depression and institutionalization (Tinetti et al., 1993). Various community support services offer strategies to reduce the incidence of falls at

home for older adults; make home modifications to remove barriers in living spaces, and provide exercise programs that target balance, speed, strength and reaction time for fall prevention. A recent study conducted by Beswick (2018) concluded that community-based interventions helped reduce fall incidence in older adults, however, research supports the fact that many older adults do not reach out to community support services (Ploeg et al., 2017) to reduce fall risk in their homes (Gopaul & Connelly, 2012).

It would be beneficial to understand why older adults with decreased physical function or fear/concerns of falling might not reach out to community support services. The hypothesis is that this could be attributed to the level of awareness of one's fall risk and thereby how concerned or not one is of falling. If one is more concerned about falling, i.e., a high concern, then in theory one would have higher health-seeking behaviour.

Psychosocial Factors (Resilience, Social Wellbeing, and Spiritual Wellbeing,)

Psychosocial health includes the emotional, social, and spiritual dimensions of what it means to be healthy (Zinger, 2011). Resilience is rooted in emotional wellbeing as studies have shown that positive emotions, positive thoughts, and positive events can help people build resilience in the face of adversity and bounce back from negative experiences (Lyubomirsky & Porta, 2010). Coping with challenges and behaving in trustworthy and respectful ways signal emotional wellness (ICAA, 2020). Resilience is a global term conceptualized as a process by which people 'bounce back' from adversity and ideally grow from the experience. Resilience develops and changes over time through ongoing experiences (Resnick, 2014). A positive and significant relationship exists between resilience and indicators of healthy ageing, such as self-rated health status and health-promoting behaviour (Wagnild, 2003). Resilience theories share a common idea that individuals who manage to navigate adversity and maintain high levels of functioning demonstrate resilience (Cosco et al., 2016). When faced with an illness, decreasing physical function or increasing fall risk, the ability to reach out to health-services to overcome these issues can be assumed to be a sign of resilience. Based on the literature that older adults who are more resilient are ageing in a healthy manner, we hypothesized that since resilience is positively related to health-promoting behaviour then a positive relationship should exist between health-seeking behaviour and resilience, i.e., the more resilient an older adult, the better their health-seeking behaviour.

Social interactions with family, friends, neighbours and chosen peer groups can be valuable for maintaining health (ICAA, 2020). The health benefits of social integration and social support have been well documented (Seeman et al., 2001). The World Health Organization (WHO) emphasized that the consequences of illness may be manifested in the individual's participation in daily life and that social interaction is of importance in leading and participating in society (WHO, 2001). Individuals with adequate social relationships have a 50% greater likelihood of survival as compared to those with poor or insufficient social relationships (Holt-Lunstad et al., 2010). Living with meaning and purpose in life, guided by personal values, is key to feelings of well- being and connection to the larger world (ICAA, 2020). A study conducted by Gallagher and Truglio-Londrigan (2004) noted that one of the facilitators of reaching out to community support services was the social connection and older adults stated that they got knowledge and information from their friends and family regarding certain services available. In the present study, considering the importance of social wellbeing and social connection, the hypothesis was that if an individual has a high level of social wellbeing with a strong social network, they should have better health-seeking behaviours as social connections act as a knowledge source for accessing healthcare services for older adults.

Spiritual wellness includes the individual's need for meaning and purpose (Strout & Howard, 2012). Neglecting the spiritual needs of older adults is particularly problematic because research has indicated the older adult population is a highly spiritual and religious group (Isaia et al., 1999). Spirituality is used as a coping mechanism, assisting older adults to effectively manage painful or unexpected events (Isaia et al., 1999). Spirituality enables older adults to be more productive and adaptive in challenging situations (Young, 1993). Individuals reported better self- rated health, fewer depressive symptoms, and more interactions with friends as a result of their spiritual wellbeing (Idler et al., 2009). Since spirituality is an important concept linked with adapting to situations, used as a coping mechanism and better self-rated health, in the present study it was hypothesized that older adults who had higher spiritual wellbeing scores would have a higher score on the health-seeking behaviour measure.

Community Support Services

Denton et al. (2008) highlighted in their study that for older adults to maintain their independence and live in their own homes for as long as possible, they must have awareness about the services that are available to assist them with health or social problems; thus stressing the importance of community support services. Community support services make an important contribution to the sustainability of the health care system and by moderating demand for expensive acute and institutional care. Strain and Blandford (2002) examined the reasons for not using community-based services among a sample of 293 older people in a Canadian province. There was a high prevalence of underutilization of community-based services, with 63% reporting they had not used homemaker and/or cleaning services in the past year, 80% had not used personal care services, and 88% had not received in-home nursing services. The percentages were even higher for other services such as home-delivered meals (91%), day centers (94%), day hospitals (97%), in-home respite services (98%), hospital respite (99%), and nursing home respite (99%). The frequently stated reasons for not using these services were the older person's health did not necessitate use, family/friends helped them, and the caregiver was unaware of the service. The study stated the general problem in the field of ageing is the underutilization of the community-based services and the gap between the expressed need and service use (Strain & Blandford, 2002). It is essential to understand the awareness of available community support services by older adults because if they are not aware of such services, they cannot reach out to them. Assessing the awareness of community support services can aid in exploring if it is there is a general lack of awareness of any services or specific services. In the present study, it was hypothesized that older adults who had a higher awareness of community support services would have a higher score on health-seeking behaviour measures.

2.1.4. Health-seeking behaviour and Wellness

Wellness is defined as the ability to understand, accept and act upon the capacity to lead a purpose-filled and engaged life and to be able to achieve wellness in all seven dimensions of the model (ICAA, 2020). Wellness then requires the individual to be actively engaged in seeking resources to maintain their wellness with a focus on all seven dimensions. Health-seeking behaviour is defined by personal actions to promote optimum wellness, recovery and rehabilitation (Nursing Outcomes Classification, 2010). Hence the personal actions to promote wellness, i.e., health-seeking behaviour

of an older adult need to be optimal to achieve wellness. The ability to understand ones' physical function level, awareness of fall risk (rooted in the environmental dimension) and psychosocial factors are important aspects of wellness. The purpose of the present study was to explore the relationship between the hypothesized factors and health-seeking behaviour, i.e., if one is aware that there is a persisting issue such as a reduced physical function or increased falls incidence it should initiate a personal action, to reach out to various health services or community support service to promote optimal wellness.

2.2 Community Support Services

Community support services are an array of services available to seniors and individuals with disabilities to enable them to remain living at home in the community. Community support services can either be not-for-profit organizations, funded by the government, or may be operated by private organizations provided for a fee. In Ontario, a referral is not needed to access most community support services. However, services that are eligible for government funding may require a referral from a Local Health Integration Network (Home and Community Care, 2019).

2.2.1 Community support services and older adults

Older adults wish to remain independent as long as possible. However, independence becomes a challenge as physical and mental functions start to decline with age. They are no longer able to keep up with everyday tasks such as cleaning, maintaining the lawn, or shoveling snow from the driveway. In some cases, the attempt to do so with declining physical function can lead to severe injuries and further medical complications. The result can be the need to move from their home to a retirement or long-term community care home.

2.2.2 Facilitators and challenges of community support services

A study conducted by Gallagher and Truglio-Londrigan (2004) highlighted the facilitators and challenges to community support services. One of the main facilitators was the knowledge gained from understanding the experiences of friends and family who have accessed community support services. The experience of a family member or friend provides information regarding the service and what to expect. Access to community support services through the formal support

system an individual is already connected with is shown to be another facilitator. The established connection with a previous service assisted the older adults to find more suitable services that met their needs (Gallagher & Truglio-Londrigan, 2004).

The major barriers outlined by Gallagher and Truglio-Londrigan (2004) were the lack of awareness of community support services and pseudo-connections (i.e., community support services are not as easily accessible as one would assume because of the limitations attached). The participants in the study stressed that they were not aware of all services available in the community. Also, many participants mentioned that despite being aware of some services, they were not aware of how to access them. In terms of pseudo-connections, it was noted that services were not as readily available as expected. Access to some of the available services required eligibility. Another barrier was a lack of assistance provided to guide individuals to access the needed services (Gallagher & Truglio-Londrigan, 2004).

Denton et al. (2008) mentioned the complexity of the healthcare system as a barrier for older adults to access community support services along with the lack of a central access point. The complexity of the system where an individual has to go back and forth to get access to a particular service was also highlighted by Gallagher and Truglio-Londrigan (2004). The facilitators and challenges to community support services were one of the factors influencing the health-seeking behaviour of an individual, but the influence of awareness of community support services on health-seeking behaviour is not understood.

2.3 Ageing-in-place

Older people want choices about where and how they age in place (Wiles et al., 2011). The home environment plays a significant role in developing and supporting personal strategies for healthy ageing (Callahan, 1993). A study conducted by Costa-Font et al. (2009) in Spanish older adults indicated that 63% of those aged between 55 and 60 years of age wanted to remain in their own homes; the desire to age-in-place in place increased with age (Costa-Font et al., 2009) such that this figure rose to 85% for those older than 80 years of age. These results were interpreted to mean that the older adults wanted to ‘age in place’, which was consistent with findings in other countries.

2.3.1 Importance of ageing-in-place

Ageing-in-place is seen as an advantage in terms of a sense of attachment or connection, and feelings of security and familiarity concerning both home and community (Wiles et al., 2011). Ageing-in-place is related to a sense of identity both through independence and autonomy, and caring relationships and roles in the places people live (Wiles et al., 2011). Previous studies with older adults in Sweden described that home is a place of meaning (Dahlin-Ivanoff et al., 2007) and is an important link to self-perceived health in 'old age' (Sixsmith et al., 2014).

The home is more than a symbol of quality of life at all ages (Perez et al., 2001). It can have certain benefits for one's physical health and psychological welfare (Fogel, 1993). Home is also recognized as a place that helps to maintain independence and autonomy (Sixsmith 1990), especially important in Western cultures where "dependency" is viewed negatively (Sixsmith & Sixsmith, 2008).

Ageing-in-place is not only a preference but also a state of mind and implies a sense of empowerment (Horner & Boldy, 2008). The term 'place' can be defined by various dimensions and its associated importance, i.e., a physical dimension that can be seen and touched like home or neighborhood, a social dimension involving relationships with people and how individuals remain connected to others, an emotional and psychological dimension, which has to do with a sense of belonging and attachment, and a cultural dimension, which has to do with older people's values, beliefs, ethnicity, and symbolic meanings (Iecovich, 2014). Thus, the home-space is not just a physical setting of residence, but for an older person, the home preserves meanings of life events and social identity, even when the older person becomes chronically ill or disabled (Iecovich, 2014). Gitlin (2003) stated that the home reflects an extension of the self, individualization, enabling preservation of the integrity of the self and promoting a sense of personhood. Older adults identify home with comfort and familiarity (Wiles et al., 2009).

2.3.2 Benefits of ageing-in-place

Research conducted by Sixsmith and Sixsmith (2008) explored the meaning and experience of "home" and ageing-in-place for older people, many of whom faced the challenge of increasing frailty while living alone. The study highlighted three things older adults valued about ageing-in- place. The home provided them with control over their privacy and helped to maintain their sense of identity. The home

was a safe space and a place to be with family, friends, and neighbours to maintain their social connections. The home could be adapted and where caregivers could come to them to provide help and support for independent living (Sixsmith & Sixsmith 2008).

Home has an emotional connection and provides the individual with a sense of purpose in life (Gawande, 2014). It is not only the home but the community as well which plays a vital role in wellbeing (Scharlach & Lehning, 2016). The community provides a social connection which is a key element of quality of life. The participants in the study conducted by Horner and Boldy (2008) revealed that meaningful social connections and involvement in social activities was an important aspect of wellbeing for them. Along with the social environment, ageing-in-place provides financial independence with homeownership serving as a mechanism for saving in old age (Costa-Font et al., 2009). This is borne out by the description that older people are 'income- poor but housing-rich' (Hancock, 1998); homeownership may be a facet of social standing. Research suggests that homeownership is a key variable influencing individual health (Macintyre et al., 1998), and especially on the health of older adults (Jones, 1997).

Ageing-in-place is not only a preference of older adults but also beneficial for policymakers and health care providers for reducing social and health care costs. The world is ageing at a rapid speed. As per the World Health Organization (2018), the number of people aged 60 years and older as a proportion of the global population will double from 11% in 2006 to 22% in 2050. According to the United Nations, the global average life expectancy is 72.6 years (Roser et al., 2019). The global average of life expectancy today is higher than any country back in 1950 (Roser et al., 2019). The increased life expectancy leads to an increased aged population which in return increases the demand for health and welfare services as morbidity and disability is associated with extreme old age.

2.3.3 Challenges for ageing-in-place

If older adults are to live at home, adequate housing conditions (i.e., mobility/accessibility) are essential for individual quality of life and wellbeing. For these conditions to be met, carers, family and organizations will need to be involved to assist the older adults in maintaining their independence in the home and community despite the burden these individuals or organizations might face (Funk, 2019). It must be taken into consideration that being in such a role can

compromise the wellbeing and health of the carer/family member. The person receiving assistance in such a situation tend to ‘downplay’ their problem/concerns because they do not want to ‘bother’ the carer/family friend (Horner & Boldy, 2008).

Heumann and Boldy (1993) stated, “interpreted correctly, ageing-in-place has the potential to provide more appropriate care at less cost than a move to a more specialized and sheltered facility” (p. 2). However, this statement was followed by, “Alternatively, ageing-in-place can cause great harm if it becomes an excuse not to build and fund long-term care facilities” (Heumann & Boldy, 1993 p. 2). Ageing-in-place, although desired by every older adult, cannot be a reality for every individual due to inability to afford the services to remain at home, and/or the lack of availability of a carer or a family member to support them.

A study conducted by Horner and Boldy (2008) identified a concern that some residents tried to cope at home for too long so that when they moved to institutionalized care, they needed a higher level of care than if they had moved earlier and that this had led to physical and mental exhaustion for both the individual and the caretaker (Horner & Boldy, 2008). Furthermore, the opposing argument is that when older adults move to “better” housing they may experience an improved quality of life, suggesting that the places where people grow old may contribute to positive experiences of ageing (Carp, 1967).

Ageing-in-place, while signifying 'rootedness', giving a sense of security, also implies rigidity, which in the long run can be harmful. As per Fokemma et al. (1996), as individuals grow older, they may be grounded by their area of residence or feel trapped by it. In terms of feeling trapped, this concept is expanded upon by Lawton (1977) stating that along with increased attachment toan area with age, there is also increased sensitivity and vulnerability to one’s social and physical environment which could mean that if an individual is living in an “impoverished” area, they might be more affected than a younger individual. Hence in this context, even if the environment is harmful both physically and socially, the individual still might feel obligated or a desire to stay. Steps and stairs as parts of the home may become barriers and pose physical risks for falls, and an inability to get around the whole home and can lead to social isolation (Sixsmith & Sixsmith, 2008). Friends and relatives of similar age with similar functional limitations may not be able to navigate these barriers and are unable to visit (Sixsmith & Sixsmith, 2008). Frailty, loss of energy, decreased functional ability and health problems have the potential to transform a comfortable and manageable home environment into a

place of social exclusion, isolation, fear and vulnerability (Sixsmith & Sixsmith, 2008). Older adults may not want to adapt their home if it portrays their frailty, for example, shower bars may be seen as a "symbol of disability" (Sixsmith & Sixsmith, 2008). Further, the privacy of a home may enable the older adult to hide their growing frailty and vulnerabilities (Sixsmith & Sixsmith, 2008).

It is important to understand the challenges concerning ageing-in-place even though most older adults prefer to live at home; if the right resources and services are not provided living at home can be harmful to the health and well-being of the ageing population. It is hence important to understand how an individual perceives their health in terms of physical function, psychosocial health, other determinants of health and their awareness of community support services to better enable them to age in their own homes in a healthier manner. Understanding the desire of older adults to age -in-place, we conceptualized health-seeking behaviour to be influenced by dimensions of wellness with the aim to explore the relationship between the two concepts (Figure 1). Further, the literature indicates a gap between the desire to age-in-place, and the availability and use of community support services. Therefore, the purpose of this study was to understand health-seeking behaviour in relation to selected dimensions of wellness and awareness of community support services and its possible implications for ageing- in-place.

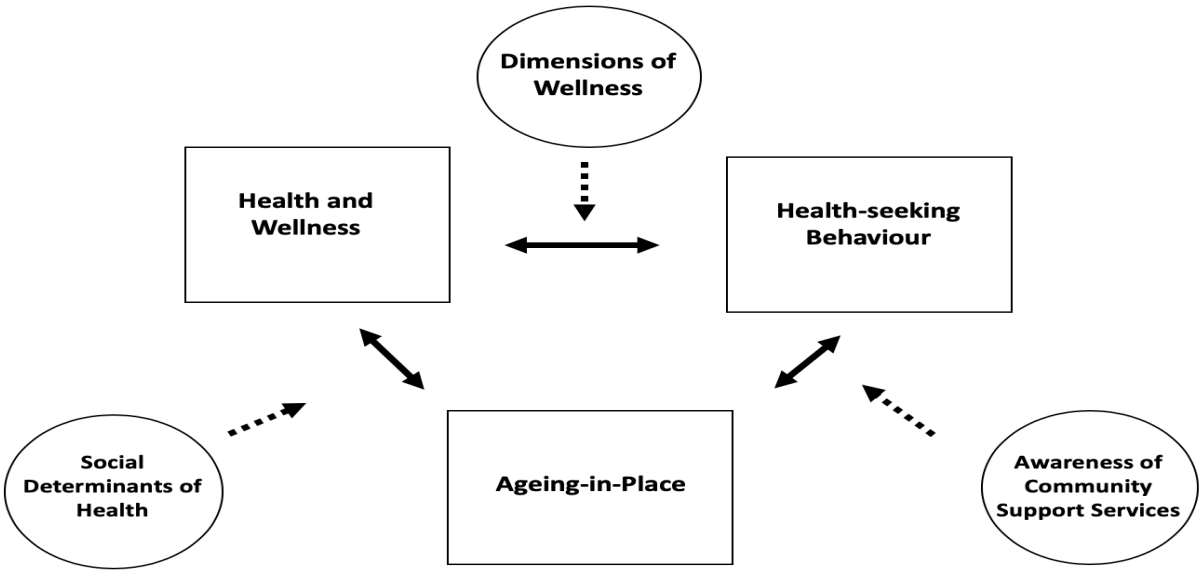

Figure 1: Representation of the relationship amongst the central notions of the study as conceptualized the researcher [NG]. The relationships are hypothesized to be influenced by

dimensions of wellness and social determinants of health, respectively, In the present study, health-seeking behaviour is hypothesized to be influenced by dimensions of wellness and awareness of community support services while understanding the relationship between wellness and health-seeking behaviour and its implications for ageing-in-place.

2.4 Summary

Health-seeking behaviour is a complex concept that contributes to successful ageing. It is essential to understand the factors that may influence health-seeking behaviour among older adults and to determine if one's health-seeking behaviour is sufficient to assist ageing-in-place. The present study has focused on the concept of health-seeking behaviour as a factor which may facilitate ageing-in-place among older adults. To better understand this complex concept, certain factors representing the seven dimensions of wellness have been selected to understand if a relationship exists between the selected factors (physical function, fall risk, psychosocial factors, and awareness of community support services) and health-seeking behaviour.

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3. Methods

This study used a cross-sectional single cohort correlational study design. Ethics approval was obtained from the Health Sciences Research Ethics Board at Western University (See Appendix F). The sample size was calculated using the formula for the minimum sample size by Green (1991), 50+8*m where 'm' is the number of independent variables. The study had six independent variables hence the sample size required for the study was 98 subjects (i.e., 50+8*6= 98).

3.1 Recruitment and Procedure

Participants were recruited in-person through presentations to community groups. A total of 99 participants met the inclusion criteria and agreed to participate; all recruited participants completed the questionnaires. Participants were older adults living independently at home in the city of London, ON, aged ≥ 65 years, ambulatory (with/without gait aid) and without executive function impairment. Executive function impairment was assessed using the Clock Drawing Test (CDT) and scored according to the criteria provided by Sunderland et al. (1989); the cut-off score of 5 or less out of 10 was used to indicate impairment. Participants who did not speak or understand English were not included in the study.

Participants self-identified their interest to participate in the study to a member of the research team [NG] in person following an announcement about the study to their community-based class or program, seeing the recruitment poster in the community centre, or hearing about the study from a friend. Permission to recruit from community programs was given to the research team by the directors of several local community programs for seniors including Age-Friendly, the Canadian Center for Active Aging, Kiwanis Senior Center, Hamilton Road Senior Center, and Society for Learning in Retirement at The University of Western Ontario. These community programs also provided a quiet room in their community location for data collection to occur before or after participants' scheduled community class or program. The research team arranged to be onsite at convenient times to facilitate participants completing the self-report questionnaires, and to be physically available to answer any questions. Participants were scheduled to attend a data collection session that corresponded with the day they would be coming to their community class or program.

The first step was to provide the participants with the information letter and consent form. At the time scheduled before or after their class/program to complete data collection, inclusion and exclusion criteria were reviewed with the participant(s), the letter of information was reviewed with them, and they were given the opportunity to ask any questions. Signed consent was then provided by the participant, and the CDT was administered in a paper-based format to evaluate executive function. If the participant did not have an intact executive function, they did not proceed further in the study. Participants who achieved above the cut score for executive dysfunction on the CDT were asked to complete a short demographic form followed by seven paper-based questionnaires, including the Late-Life Function Instrument (Haley et al., 2002), Fall Efficacy Scale-International (Yardley et al., 2005), Connor Davidson Resilience Scale (Connor & Davidson, 2003), The Duke Social Support Index (Koenig et al. 1993), Spiritual Well-being Scale (Paloutzin & Ellison, 1983), 13-Item health-seeking behaviour questionnaire (Sarkisian et al., 2012) and a survey of awareness of local community support services for older adults, with assistance from members of the research team as requested. Once participants had completed and submitted the questionnaires, the participant's involvement in data collection was over. The completed questionnaires were moved by a member of the research team [NG] to a University lab for storage; data were analyzed at the lab to maintain participant confidentiality.

3.2 Outcome measures and psychometric properties

The study had the following six independent variables, individually assessed with a validated outcome measure: physical function; awareness of fall risk; resilience; social wellbeing; spiritual wellbeing; and awareness of community support services. The dependent variable for the study was the health-seeking behaviour of community-dwelling older adults.

Late-Life Function Instrument (LLFI)

The Late-Life Function Instrument is a self-report measure that has been widely used to assess the functional limitations of older adults (Haley et al., 2002) and is based on an explicit theoretical framework (Beauchamp et al., 2014). Physical function was measured using the LLFI (Haley et al., 2002). The LLFI assesses an individual's perceived limitations in performing discrete functional

tasks or activities (Beauchamp et al., 2014). The LLFI can provide an overall score or individual component scores for each of the upper extremity function, lower extremity function, and advanced lower extremity function. For this study, the overall score was calculated. The raw score was converted to a scaled score out of 100 using a table provided in the Late-Life Function and Disability Index Manual (Jette et al., 2006). Scores closer to 100 indicated a higher ability to perform discrete actions and activities; scores closer to 0 signified a lower level of performance on discrete actions and activities (e.g., walking downstairs, opening a jar). The test- retest reliability of the LLFI Function summary subscale scores was extremely high (intraclass correlation coefficients [ICCs] = 0.91–0.98). The LLFI has strong evidence supporting its construct validity with related measures of function and health in community-dwelling older adults (Beauchamp et al., 2014). Also, it has strong evidence for predictive validity for important health outcomes such as disability and falls in older adults (Beauchamp et al., 2015)

Falls Efficacy Scale-International (FES-I)

Fall risk was assessed using the Falls Efficacy Scale-International scored from 16 to 64 (Yardley et al., 2005). The FES-I was designed to assess the degree of perceived efficacy (i.e., self- confidence) for avoiding a fall during each of 10 relatively nonhazardous activities of daily living (Yardley et al., 2005). Scores on the FES-I are categorized by three cut-points for low, moderate and high concern for falling (Delbaere et al., 2010). Scores between 16-19 indicate a low concern for falling, scores between 20-27 indicate a moderate concern for falling, and scores 28-64 indicate a high concern of falling (Delbaere et al., 2010). Upon initial development and validation, the FES-I had excellent internal consistency (α=0.96) as well as test-retest reliability (ICC=0.96; Yardley et al., 2005). A recent study (Figueredo et al., 2018) stated the FES-I had an internal consistency (α) total score of 0.97. For the test-retest reliability, the ICC for the total scale was 0.98 (95% confidence interval [CI] 0.962–0.988) (Figueredo et al., 2018).

Connor-Davidson Resilience Scale (CD-RISC)

The Connor-Davidson Resilience Scale© is a 25-item measure developed by Connor and Davidson (2003) with a theoretical grounding in stress, coping and adaptation research (Cosco et al., 2016).

Resilience was assessed using the 25-item version of the CD-RISC (Connor & Davidson, 2003). Each item on the questionnaire was scored out of 0 to 4 with an overall possible score of 100. A higher score, approaching 100, represented more resilience whereas a lower score, approaching 0, represented less resilience (Connor & Davidson, 2003). The test- retest reliability for CD-RISC had an interclass correlation coefficient of 0.87 (Connor & Davidson, 2003). The internal consistency of CD-RISC was $\alpha = 0.93$ and the item-total correlations ranged from r = 0.51-0.70 (Goins et al., 2013).

The Duke Social Support Index (DSSI-11)

Social wellbeing was assessed using the 11-item version of the Duke Social Support Index validated by Koenig et al. (1993). The DSSI was developed in the United States of America as a brief, easily administered instrument to determine an individual's level of social support (Koenig et al., 1993). The DSSI measures multiple dimensions of social support and has been used extensively in cross-sectional and longitudinal studies of ageing (Koenig et al., 1993). The DSSI initially was developed as a 35-item scale but long questionnaires may exhaust the elderly especially a part of an interview with several other questionnaires. Koenig et al. (1993) developed an 11-item version of the DSSI for this purpose. The scale is divided into two sub- sections, social interaction and satisfaction, with four and seven items respectively. The sub- sections can be scored individually, however, for this study an overall score was calculated for the questionnaire. Overall scores ranged between 11 to 31, with scores approaching 31 indicating high levels of social support and scores approaching 0 indicating low levels of social support. Goodger et al. (1999) assessed the psychometric properties of the 11-item DSSI by testing it in a random sample of 565 community-dwelling older adults over the age of 70 years. The internal consistency of the scale was $\alpha = 0.77$ (Goodger et al., 1999). The test-retest reliability for DSSI-11 had an interclass correlation coefficient of 0.70 (Goodger et al., 1999).

Spiritual Well-Being Scale (SWBS)

Spiritual wellbeing was assessed using the Spiritual Well-Being Scale (Paloutzian & Ellison, 1982). The SWBS was developed by Paloutzin and Ellison (1983) as a measure of an individual's perceived spiritual quality of life in two subscales which reflect two dimensions: Religious Well-Being, the religious sense reflecting a person's relationship with God or a Supreme Being; and Existential Well-Being, which reflects the transcendent sense of spirituality (Stanfill, 2017). It is one

of the most utilized measures of spiritual well-being (Stanfill, 2017). The scale can be used as a 20-item questionnaire to assess the overall perceived spiritual wellbeing of an individual or can be used to produce two separate scores representing religious well-being and existential well-being. For this study, the questionnaire was scored to obtain a score for an overall perceived spiritual well-being. Each item on the SWBS questionnaire was scored out of 6, with a higher score representing greater well-being. The negatively worded items were reverse scored. The overall score for the questionnaire is obtained out of a total score of 120 and is divided into three categories. Scores between 20-40 indicate low spiritual wellbeing, scores between 41-99 indicate moderate spiritual wellbeing and scores 100-120 indicate high spiritual wellbeing. The internal consistency of the scale is $\alpha = 0.87$ for religious well-being, $\alpha = 0.78$ for existential well-being and overall $\alpha = 0.89$ (Ellison, 1983). The test-retest reliability for the scale had an interclass correlation coefficient of 0.93 (Ellison, 1983).

Awareness of Community Services

The awareness of community support services was measured using a questionnaire that listed all the known available community support services specific to older adults in the city. An internet search was conducted to compile a comprehensive list of services available in the city. The list was reconciled by a panel of experts working as clinicians and/or administration of an outreach organization employed by the city with the mandate to collate and advertise senior support services. The final list of 78 services was divided into six categories including home care provided by health professionals, leisure and recreation, physical activity and fitness, senior centers, transportation, and additional services (e.g., friendly visits, 211 Helpline, Third Age Outreach Program etc.). Participants were instructed to 'tick mark' the services they had heard of and place a second 'tick mark' in front of the service if they had ever used it. The latter was to grasp an understanding of service use and the former was to understand the awareness of community support services. Questionnaires were scored out 78, where a higher number of services ticked represented a higher awareness or use of available services, respectively. A list of local London community health services was generated, with input from Age-Friendly, London ON, to quantify awareness of available community services by the older adult participants. The participants were instructed to tick the services they are aware of or have heard about in the past and circle the services they have used in the past. A brief description was provided in case the name itself was not recognized by the participant.

Health-seeking Behaviour

Sarkisian et al. (2002) developed a series of 13 items to measure beliefs regarding healthcare- seeking for age-associated conditions. The series of 13 items describe the common age- associated phenomena such as ‘walking more slowly’, ‘having aches in one's joints’ and ‘having trouble sleeping’. The series of items was followed by a probe "If an older friend came to you asking for your advice about the following issue, what would you tell him or her?". Participants were asked to state whether they would tell their friend that it is 'very important', 'somewhat important', or 'not at all important' to discuss each of the 13 items with the doctor. The frequency of response for each of the items was calculated, and a total score was calculated by assigning 3 points for 'very important', 2 for 'somewhat important', and 1 for 'not at all important'. The internal consistency of the scale is $\alpha = 0.87$ (Sarkisian et al., 2012).

3.3 Reflections

Sometimes participants felt the need to tell me about their experiences with community support services during data collection sessions. I quickly realized the comments provided a different understanding than my own which may be important when analyzing the data. After data collection sessions were completed, I wrote my reflections on their experiences to capture the main ideas from their comments and stories. My reflections were not verbatim but were meant to record my understanding of their thoughts and feelings about their awareness and use of community support services. The stories were based on their own or their friends/family’s experiences with using or choosing not to use support services available in the community.

3.4 Data Analysis

Outcome measures for independent variables and dependent variables were scored, and participant demographic data were analyzed using descriptive statistics. The level of statistical significance was set at $p < 0.05$. Statistical analysis was completed using the Statistical Package for Social Sciences (Version 26.0).

3.4.1 Correlation

Pearson product-moment correlation coefficient (r) is the commonly used correlation coefficient to determine whether two continuous variables correspond with one another, not to determine causation (Portney & Watkins, 2015). Correlation coefficients values can range from -1.00 to +1.00, where -1.00 indicates a perfect negative relationship, 0.00 represents no relationship and +1.00 represents a perfect positive relationship (Portney & Watkins, 2015). A correlation was assessed between the dependent variable, health-seeking behaviour, and the six independent variables, physical function, fall risk, psychosocial factors, and awareness of community support services.

3.4.2 Multiple Linear Regression

Multiple Linear Regression is a statistical method used to explain a dependent variable using multiple independent variables. To complete this analysis, the following assumptions of multiple linear regression need to be met: 1) multivariate normality – the residuals are normally distributed, 2) no multicollinearity - the independent variables have a variance inflation factor of less than 10, 3) homoscedasticity - variance of error terms are similar across the values of the independent variables (Portney & Watkins, 2015). Multiple linear regression was used to determine if a relationship existed between health-seeking behaviour and the five dimensions of wellness, and awareness of community support.

3.4.3 Mann-Whitney U test

Mann-Whitney U test is the non-parametric equal of the independent *t*-test and is used as an alternative to the independent *t*-test in case one or more of the assumptions of the independent *t*- test are not met, including a requirement of that groups be of the same size (Portney & Watkins, 2015). The Mann-Whitney U test was used to determine if there was a difference in health-seeking behaviour among groups of participants stratified by gender and age above or below 75 years.

3.5 References

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4. Results

4.1 Participants

The study sample included 99 participants (66 women and 33 men) with a mean age of 73 years (*SD* = ± 6 years). Characteristics of the participants are summarized in Table 2. The statistical output from SPSS for the results can be found in Appendix A.

Table 2: Descriptive characteristics of the older adult study participants (*n* = 99).

Characteristics	**Group mean (± *SD*), *n* (%), range Age**
	73 ± 6 years, 65-92 years
Gender	
Women	66 (66.7%) Men 33
(33.3%) **Medical Conditions**	1.8 ± 1.5, 0-8
Cardiovascular-respiratory	46 (29.8%)
Endocrine	44 (28.5%) Other
(e.g., Eczema, sinusitis)	28 (18.1%)
Musculoskeletal	27 (17.5%) Vision
(e.g. Glaucoma, cataract)	5 (3.2%)
Neurological	4 (2.5%)
Prescription Medications	2.2 ± 2.4, 0-17
Service Use	1.5 ± 0.7, 1-4
Visitor/companion	62 (42.7%)
Grasscutter/landscaper/snow removal	36 (24.8%)
Cleaning service	34 (23.4%)
Child/relative/neighbour assistance	9 (6.2%) Meal
service	2 (1.3%)
Paratransit	1 (0.6%)
Chaplain/spiritual leader/counsellor	1 (0.6%) **Living**
Situation	
Alone	56 (56.6%)

Spouse	36 (36.4%)
Child	3 (3.0%)
Someone	3 (3.0%)
Spouse and child	1 (1.0%)
Employment Status	
Retired	63 (63.6%)
Retired and volunteer	27 (27.3%)
Paid (part time)	3 (3.0%)
Paid (full time)	2 (2.0%)
Volunteer	2 (2.0%)
Unpaid (e.g., homemaking, caregiver)	1 (1.0%)
Retired and paid (part time)	1 (1.0%)
Satisfaction with Employment Status	
Satisfied	88 (88.9%)
Not Satisfied	11 (11.1%)

4.2 Descriptive Statistics for Dependent Variable and Independent Variables

The group mean score (± SD) obtained for the dependent variable, i.e., health-seeking behaviour and the independent variables, i.e., physical function, fall risk, resilience, spiritual wellbeing, social wellbeing and awareness of community support services are summarized in Table 3. The statistical output from SPSS for the results can be found in Appendix B.

Table 3: Descriptive statistics for dependent and independent variables

Dependent/Independent variable	**Group mean score (± SD)**
Health-seeking behaviour	27.35 (± 6.90).
Physical Function	66.93 (± 11.08).
Fall Risk	21.49 (± 5.89)
Resilience	80.69 (± 13.82).

Spiritual Wellbeing	86.28 (± 18.64).
Social Wellbeing	27.51 (± 7.36)
Awareness of Community support Services	
Heard of the services	19.78 (± 8.52)
Previously used services	2.04 (± 2.33)

4.3 Correlation analysis between health-seeking behaviour and the independent variables

A Pearson correlation analysis was used to determine the relationship between scores on the health-seeking behaviour questionnaire and the five dimensions of wellness, i.e., physical function, fall risk, resilience, social wellbeing, spiritual wellbeing, and awareness of community support services. Physical function was found to be moderately and weakly correlated with fall risk (r=0.60, p= 0.001) and resilience (r=0.25, p=0.01), respectively. Resilience, apart from the correlation with physical function and fall risk, also had a weak correlation with social wellbeing (r=-0.25, p=0.01) and awareness of community support services (r=-0.22, p=0.01), and a moderate correlation with spiritual wellbeing (r=0.47, p=0.001). The results showed a weak relationship amongst spiritual wellbeing and awareness of community support services (r=-0.18, p= 0.04). Awareness of community support services was the only independent variable that showed a positive moderate correlation with health-seeking behaviour (r=0.40, p=0.00). A summary of the correlation analysis is provided in Table 4. The statistical output from SPSS for the results can be found in Appendix C.

Table 4: Pearson r correlation values based on statistical analysis of participant scores (n=99) between health-seeking behaviour (dependent) and physical function, fall risk, resilience, social wellbeing, spiritual wellbeing, and awareness of community support services (as independent variables).

	Physical Function	**Fall Risk**	**Resilience**	**Social Wellbeing**	**Spiritual Wellbeing**	**Awareness of Community support Services**	**Health-seeking behaviour**
Physical Function	-	-0.60**	0.25**	-0.00	-0.01	-0.03	-0.14

Fall Risk	-	-	-0.18*	-0.13	0.01	-0.14	0.12
Resilience	-	-	-	-0.25**	0.47**	-0.22*	0.02
Social Wellbeing	-	-	-	-	0.12	0.13	0.01
Spiritual Wellbeing	-	-	-	-	-	-0.18*	0.02
Awareness of Community support Services	-	-	-	-	-	-	0.40**
Health-seeking behaviour	-	-	-	-	-	-	-

**p=<0.05*
***p=<0.01*

4.4 Primary objective: Health-seeking behaviour and selected factors related to dimensions of wellness

Multiple linear regression was used to determine the relationship between health-seeking behaviour and the five dimensions of wellness, i.e., physical function, fall risk, psychosocial factors, and awareness of community support services. The assumption of multicollinearity was assessed using the variance inflation factor (Hair et al., 1995). The tolerance values and variance inflation factor (VIF) values were consistently less than the suggested cut-off of 10 across all variables (Hair et al. 1995). The statistical output from SPSS for the results can be found in Appendix D.

Three models were developed to understand the relationship between the dimensions of wellness (independent variables) and health-seeking behaviour. Model 1 included the five hypothesized factors representing five dimensions of wellness and health-seeking behaviour as the dependent variable. Model 2 included the five dimensions of wellness and awareness of community support services to determine relationship with health-seeking behaviour. In Model 3, the multiple linear regression was conducted in a stepwise method to include the independent variables that met the criteria of probability-of-F-to-enter ≤ 0.050, Probability-of-F-to-remove ≥ 0.100.

Table 5: Models for Multiple Linear Regression to analyze the relationship between health- seeking behavior and the five dimensions of wellness, and community support services

Variables	Model 1	Model 2	Model 3
Dependent Variable	Health-seeking behaviour	Health-seeking behaviour	Health-seeking behaviour
Independent Variables	• Physical Function • Fall Risk • Resilience • Social Wellbeing • Spiritual Wellbeing	• Physical Function • Fall Risk • Resilience • Social Wellbeing • Spiritual Wellbeing • Awareness of Community support Services	• Awareness of community support services
Adjusted R^2 Value	R^2 =-.02, F=.54, p=0.75	R^2 =.17, F=4.34, p=0.01	R^2 =.15, F=18.03, p=0.00

Model 1

In Model 1, the relationship was assessed between health-seeking behaviour and the five dimensions of wellness. The model explained -0.2 % of the variance in the dependent variable (R^2 =-.02, F=.54, p=0.75). No significant relationship was found between scores on health-seeking behaviour and scores of physical function (β=-.0.12, p =0.34), fall risk (β=.0.07, p=0.34), resilience (β=0.09, p=0.50), social wellbeing (β=0.04, p=0.94), or spiritual wellbeing (β=-0.03, p=0.84).

Model 2

In Model 2, the relationship was assessed between health-seeking behaviour and the five dimensions of wellness, i.e., physical function, fall risk, resilience, social wellbeing, spiritual wellbeing, and awareness of community support services. The model explained approximately 17% of the variance in the

dependent variable (R^2 =.17, F=4.34, p=0.01). Awareness of community support services (β=0.46, p=0.00) was the only independent variable found to have a significant positive relationship with the health-seeking behaviour score. No significant relationship was found between health-seeking behaviour and physical function (β=-0.10, p=0.38), fall risk (β=0.16, p=0.19), resilience (β=0.17, p=0.16), social wellbeing (β=.0.01, p=0.94), or spiritual wellbeing (β=0.02, p=0.83).

Model 3

In Model 3, the stepwise method was utilized, and the non-significant independent variables were removed. Model 3 depicted that awareness of community support services (β =0.40, p=0.00) had a significant positive relationship with health-seeking behaviour, accounting for approximately 15% of the variance (R^2 =.15, F=18.02, p=0.00). The regression model estimated a 0.32 increase in health-seeking behaviour score for every unit increase in awareness of community support services. A higher awareness of community support services indicates greater health-seeking behaviour.

4.5 Secondary objective: Difference in health-seeking behaviour amongst different age groups and gender of study participants

4.5.1 Health-seeking behaviour and age – Mann-Whitney U test

A Mann-Whitney U test was used to determine if there was a difference in the health-seeking behaviour between study participant older adults < 75 years of age and ≥ 75 years. The mean ranks for age groups < 75 years and ≥ 75 years of age were 50.99 and 47.82 respectively. The test results revealed that there was no statistically significant difference in the health-seeking behaviour for older adult participants < 75 years and ≥ 75 years of age (U=986.5, n_1=68, n_2=31, p=0.61).

4.5.2 Health-seeking behaviour and gender – Mann-Whitney U test

A Mann-Whitney U test was used to determine if there was a difference in the health-seeking behaviour between men and women study participants. The mean ranks for men and women were 45.23 and 52.39 respectively. The test results revealed that there was no statistically significant difference in the health-seeking behaviour of the older adult participants depending upon their

gender, i.e. men and women (U=931.5, n_1=66, n_2=33, p=0.24). The statistical output from SPSS for the results related to differences in age groups and gender can be found in Appendix E.

4.6 Reflections

During the data collection session with the participants, when the details of the study were explained, participants told stories and provided insights about their experiences about the listed community support services on the awareness of community services questionnaire to the research team member [NG]. Notes in the form of reflections were written of the shared stories after the data collection sessions. The insights from study participants were thought to be significant and were collected to provide insight about older adult beliefs and opinions about community support services for future research to better understand the awareness and use of community support services by community-living older adults. Approximately 20 participants expressed their awareness of the listed community support services, however, added that they would never access the services themselves due to safety and quality concerns.

They shared stories of family members or friends who had accessed community support services on the list and had a poor experience. The frequently discussed services were homecare, particularly for bathing and grooming, and meal delivery services. The concerns surrounding these services were related to issues such as comfort level when the care provider was of the opposite gender, "cold-behaviour" of the care provider, or in case of meal service, the food being cold or not on time, for example. Participants did not discuss alternatives to these services; they simply stated they would not access the services themselves due to the experiences of their friends and relatives. There were also participants who talked about the benefits of the services. Services related to grief counselling and assistance during the phase of a loss of a family member/friend were noted by participants to be helpful during difficult times of their lives such as the loss of a spouse. In conclusion, participants were open to sharing their stories about community support services which provided insight about their beliefs and opinions regarding community support services.

4.7 Summary of Results

No significant relationships were found between health-seeking behaviour and physical function, fall

risk, resilience, social wellbeing, and spiritual wellbeing. A significant relationship was found between health-seeking behaviour and awareness of community support services. Resilience had a low to moderate correlation with independent variables, i.e., physical function, fall risk, social wellbeing, spiritual wellbeing, and awareness of community support services. No difference in health-seeking behaviour was found in different gender (men and women) and age (< 75 years and ≥ 75 years) groups. The variance in the dependent variable i.e., health-seeking behaviour was mostly explained by awareness of community support services.

4.8 References

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5. Discussion

This study investigated relationships among health-seeking behaviour of community-dwelling older adults, awareness of community support services, physical function, awareness of fall risk, resilience, spiritual wellbeing, and social wellbeing. Five of the seven dimensions of wellness, as proposed by the International Council on Active Ageing (ICAA, 2020), were selected including physical (physical function), environmental (awareness of fall risk) and psychosocial factors (resilience, spiritual wellbeing and social wellbeing). Health-seeking behaviour was not found to be significantly correlated with any of the five independent variables grounded in the Seven Dimensions of Wellness. Health-seeking behaviour, as quantified by the 13 Item Healthcare Seeking Behaviour questionnaire; however, was found to be moderately correlated with awareness of community support services. No significant differences were found in health-seeking behaviour between age groups ≥ 75 years, and>75 years and or gender. The findings did not support either hypothesis for 1) a strong relationship between health-seeking behaviour and the five factors grounded in the Seven Dimensions of Wellness model, or 2) a difference in health-seeking behaviour based on gender or age.

5.1 Health-seeking behaviour and Dimensions of Wellness

Health-seeking behaviour is a complex concept with many dimensions that need to be explored and due to lack of understanding, efforts to improve health-seeking behaviour have fallen short (Cornally & McCarthy 2011). In this study, we aimed to understand the relationship between certain hypothesized factors grounded in the Seven Dimensions of Wellness and explored whether they could provide insight into understanding the health-seeking behaviour of older adults living independently in the community as a means to support ageing-in-place. To age-in- place successfully one needs to be actively engaged and receiving assistance from various health and community support services to enable older adults to maintain their independence at home for as long as possible. However, previous studies (Canvin et al., 2018; Sarkisian et al., 2002; Strain and Blandford, 2002; Walters et al., 2001) reported that older adults were not using community support services and believed that health-issues were a normal part of ageing. To further understand the lack of service use by older adults and to contribute to the existing literature to guide efforts to support older adults to age-in-place, this study chose factors hypothesized to be related to health-seeking behaviour including physical function, fall

risk, psychosocial factors (i.e., resilience, social wellbeing, and spiritual wellbeing), and awareness of community support services, based on the Seven Dimensions of Wellness theoretical model (ICAA, 2020).

Informed by the literature that the dimensions of wellness overlap and attaining wellness in one dimension influences the other dimensions (ICAA, 2020; Fullen 2019; Adams et al., 1997; Hettler, 1976), the five hypothesized factors were analyzed as a model to explore the relationship with health-seeking behaviour however no significant relationship was found between the hypothesized factors and health-seeking behaviour. These results are counter to the literature reporting on the dimension of wellness and their importance in contributing to wellness in older adults. Strout et al. (2018) interviewed older adults to explore the six dimensions of wellness in older adults based on the theoretical framework of Hettler (1976). The study found that older adults prioritized physical, social and emotional dimensions out of the six dimensions of wellness as the dimensions they believed to be important in achieving wellness and independence. Campbell and Kriedler (1994) also highlighted mobility and social activity as important components of older adults' wellbeing.

During the analysis of the factors as independent variables and as a group of inter-dependent variables, it was noted that resilience had a weak correlation with physical function, fall risk, social wellbeing, and awareness of community support services, and a moderate correlation with spiritual wellbeing. The findings of a positive correlation between resilience and physical function are supported by the literature (Ford et al., 2014; Kukihara et al., 2017; MacLeod et al., 2016). A study conducted by Lau et al. (2018) analyzed the relationship between health and resilience and stated that participants who had low physical function tended to have lower resilience. In another study by Lim et al. (2020), it was noted that patients following hip fracture surgery, who reported better resilience pre-operatively, had better physical function recovery post-operatively, highlighting the positive correlation between resilience and physical function. A negative relationship between fall risk and resilience was noted in the present study. Rogerson and Emes (2008) conducted a qualitative study that focused on fostering resilience in adults who attended day support programs once or twice a week. The results of the study noted that resilience acted as a protective resource, i.e., fostering resilience through being part of a day support programs and participating in physical activity programs, enabled older adults to reduce or minimize the issues, such as declining physical function

or fall risk, that contributed to feelings of vulnerability. There has been an increasing interest in understanding the role of spirituality in the resilience of older adults (Crowther et al., 2002). A significant relationship was observed between spiritual wellbeing and resilience in the present study. This finding is supported by Reis and Menezes (2017) who focused on the importance of religiosity and spirituality as resilience strategies. It was noted in the study that spirituality presented as an important resilience strategy to achieve wellbeing and coping with health-related issues. A similar finding was reported by Vahia et al. (2011) who concluded that spiritual wellbeing played a significant role in promoting resilience.

Unexpectedly, resilience was negatively correlated with social wellbeing. A negative correlation between resilience and social wellbeing was opposite to the literature stating a significant positive influence of resilience on the social wellbeing of an individual (Macleod, 2016; Mamta & Sharma, 2013). Cicognani (2014) noted that social connections are a component of social wellbeing. As a person moves through life, their social circle and interactions grow smaller and fewer. According to the socio-economic theory, older adults are focused on emotionally meaningful relationships (Carstensen et al., 1999), which decreases the frequency of social interactions (Huxhold et al., 2013). Further, the frequency of social interactions decreases with fewer numbers of friends and limited physical function and energy to be able to spend on relationships (Huxhold et al., 2013). The present study hypothesized that decreased social interactions could lead to reduced social wellbeing, and increase resiliency with hardships, such as coping with chronic diseases or loss of a spouse because older individuals must cope more on their own with a reduced social support system. Further, a second unexpected finding was the negative correlation between resilience and awareness of community support services. A review of the literature did not reveal previous findings of the relationship between resilience and awareness of community support services for older adults living independently in the community. Although, the literature did report several difficulties for older adults in navigating community support services including the complexity of the healthcare system, concerns for safety or quality of community services, not having support from a family/friend to assist access, or lack of awareness of available services (Funk, 2019; Ploeg et al., 2017; Gallagher and Truglio- Londrigan, 2004). It can be hypothesized for participants of this study that their reported lack of awareness of community support services required them to be more resilient; they were more 'on their own' to take care of themselves or help their friends and family.

In terms of the difference in health-seeking behaviour between gender, the present study found that no difference existed between the health-seeking behaviour of men and women participants. These findings are supported by Sharma et al. (2013) who concluded that sex was not significantly related to health-seeking behaviour. In contrast to these results, previous studies showed that a difference does exist in the health-seeking behaviour of men and women where women were more engaged in health-seeking behaviour (Atchessi et al., 2018; Quashie, 2018). The difference in the results of these studies could be attributed possibly to differences in the context of the sociocultural environment, gender roles and economic resources for example, as these studies were conducted in Nigeria with older adults age 50 years and Barbados with older adults age 60 years, respectively. However, Patel and Chahaun (2019) noted that men had better health-seeking behaviour than women. They explained that men had better access to finances and transportation than women due to the women having several socio-economic restrictions placed on them within Indian society. There was no significant difference in the health-seeking behaviour amongst the age groupings in the present study (<75 years and ≥ 75 years). In contrast to the findings of the present study, Gyasi et al. (2019) noted that older adults aged 80 years engaged more in health-seeking behaviour as compared to older adults aged between 50-69 years. A similar difference in health-seeking behaviour amongst different age groups was also noted in the literature (Patle, 2015; Patle & Khaske 2015; Sharma et al., 2013). However, in these studies, socio-economic status and literacy rates along with poverty also influenced the health-seeking behaviour of the older adults (Patle & Khaske 2015; Sharma et al., 2013).

As a summary, wellness is an ever-evolving concept and varies depending on personal priorities and values (Fullen 2019, Strout et al., 2018). Strout et al. (2018) further stated that it may be impossible to agree on a model that classifies an older adult “ageing well or successfully” as definitions of ageing success vary widely among older adult populations. These factors could attribute to the lack of relationship found between the factors grounded in the wellness model and health-seeking behaviour. The complex nature of health-seeking behaviour and the wellness (Fullen, 2019; Strout et al., 2018) in older adults need to be further explored to operationalize and standardize wellness and health-seeking behaviour in older adults to better understand the needs of older adults in terms of their independence and preference of ageing-in-place.

5.2 Health-seeking behaviour and Awareness of Community Support Services

A positive moderate relationship was found between greater individual awareness of community support services and higher health-seeking behaviour scores. The present results underline the importance of awareness of community support services in relation to the health-seeking behaviour of older adults. The issue of lack of awareness of community support services amongst the older adult population has been highlighted in the literature (Ploeg et al., 2017; Denton et., al 2008; Strain and Blandford, 2002; Wister, 1992). The lack of awareness of community support services as reported in the literature can be a challenge to health-seeking behaviour based on the present results. The awareness of community support services through friends and family as a potential facilitator to accessing community support services was highlighted by Gallagher and Truglio-Londrigan (2004) in their study which noted that one of the main facilitators was the knowledge gained from understanding the experiences of friends and family who have accessed community support services. During data collection, reflections were made about community services discussed by the participants. Participants explained that they found out about the community service either from a friend or while they were taking care of a sick family member. However, in contrast to the present findings, a study by Funk (2019) discussed the drawback of relying on friends and families stating navigating systems and access care themselves can give rise to inequities due to differences in socioeconomic status, education and other characteristics that affect their capacities to access these services. Frail older adults without family or friends who can provide support can be seriously disadvantaged as well (Funk, 2019).

Another issue highlighted by study participants while completing the questionnaires and surveys was their concerns about the quality and safety of the listed community services. Participants were concerned by some of the community support services based on the poor experiences of their friends, and despite being aware of the services, they stated they would not access them due to safety and quality concerns. A similar concern was noted by participants in a study by Gallagher and Truglio-Londrigan (2004) who reflected that while accessing service support services they had been treated without care or compassion. Ploeg et al. (2017) explored the experiences of older adults in the community managing multiple chronic conditions and similar findings were noted where the participants reflected on how they were not considered holistically and approach to care was

disjointed. Contributing factors to health-seeking behaviour in older adults are unclear, although the significant positive relationship found between awareness of community support services and health-seeking behaviour in this study may provide some insight. Awareness of community services may be an important strategy for clinicians to provide older adults with the information they need to make decisions regarding their health and promote health-seeking behaviour.

5.3 Implications for Healthcare

The present study demonstrated a moderate relationship between awareness of community support services and health-seeking behaviour. It showed that individuals who were more aware of community support services reported being engaged in more health-seeking behaviour. However, previous studies (Gallagher & Truglio-Londrigan, 2004; Strain & Blandford, 2002) reported that older adults were not aware of community support services and their knowledge was limited to family and friends. Studies have also highlighted the complexity of the health-care system where older adults felt lost in the system and had difficulty accessing these services, hence reducing their motivation to use them (Funk, 2019; Denton et al., 2008, Gallagher & Truglio-Londrigan, 2004). A strategic approach to spreading awareness of community support services was suggested were an accessible system to inform all older adults, frail and active, about available services. A study conducted by Ploeg et al. (2017) highlighted the lack of use of community support services and how more research is needed to understand how health care providers can facilitate access to community support services for older adults. The study also highlighted the importance of developing strategies to assist health care providers to improve links to community support services, including the use of technology (Ploeg et al., 2017). An integrated system where older adults can self-report health-issues which may hinder their ability to age-in-place and be guided to the correct community

5.4 Implications for Future Research

Health-seeking behaviour is a complex concept but a vital component in terms of assisting the ageing population to remain independent and stay in their own homes for as long as possible. A combined model of five of the seven factors grounded in the Seven Dimensions of Wellness was not significantly related to health-seeking behaviour in study participants. Perhaps these are not the only

factors related to health-seeking behaviour. Future research is required to understand health-seeking behaviour in older adults and investigate other combinations of physical and cognitive factors to understand health-seeking behaviour in older adults to support ageing-in- place. Although resilience is a global concept and coming to the forefront of geriatric research, a review conducted by Cosco et al. (2017) stated that more research is needed to conceptualize and operationalize the term resilience concerning older adults. The findings of the present study revealed a relationship between resilience and social wellbeing, and community support services which have not been explored in past literature. The results may suggest exploring social wellbeing and awareness of community support services to understand the influence of these factors on resilience and may aid in operationalizing resilience in older adults. Awareness of community support services had a significant relationship with health-seeking behaviour in a group of older adults who participated regularly in physical activity. Future studies may be needed to determine the role of physical functional ability, or level of physical activity participation, on health-seeking behaviour. Further, if the physical ability is a determinant of awareness of community services, this relationship needs to be explored in frail older adults as well individuals who are aware of community support services but do not reach out to the services due to quality and safety concerns.

5.5 Study Limitations

Participants were recruited from community centers that offered physical activity programs and required memberships, thereby the findings may not generalizable to the continuum of older adults living in the community because of socio-economic factors, fitness levels, and cognitive status. The outcome measures were self-report, hence personal bias could have skewed the results as individuals could have under-estimated or over-estimated their abilities while reporting them on the questionnaires. Family-wise error across the reported analyses was not controlled for with a correction factor with the reasoning that there are various practical issues surrounding the correction (e.g. lack of clarity surrounding the term ‘family’; are all statistical analysis included during the correction or the ones published etc.) as well as the risk of increasing the chances of committing Type-II error. Hence it is suggested to consider the findings preliminary and replication is encouraged. Since the primary objective was not to measure these variables and instead understand their relationship with health-seeking behaviour, it remains difficult to ensure accuracy.

5.6 Conclusion

The purpose of this study was to better understand health-seeking behaviour among physically active older adults and its possible implications for ageing-in-place. The study explored health-seeking behaviour with hypothesized factors grounded in Seven Dimensions of Wellness. The results showed no significant relationship between health-seeking behaviour and the hypothesized factors. However, a positive relationship between the health-seeking behaviour of community-dwelling older adults and awareness of community support services was found, adding a new finding to the existing literature about the importance of community support services. The relationship focused on the importance of awareness of community support services as it enabled better health-seeking behaviour in older adults. Furthermore, the unexpected findings of the significant negative relationship between resilience and social wellbeing, and community support services discovered in this study needs to be explored in future research.

Health-seeking behaviour has positive implications for ageing-in-place, which encompasses one's physical health and psychological welfare. To attain wellness, physically and mentally, one needs to actively engage in understanding and acting upon any issues related to health, which was quantified as health-seeking behaviour in this study. More research is required to understand health-seeking behaviour in older adults and factors from other physical and cognitive models to better clarify the factors related to health-seeking behaviour. This clarification is crucial to understand health-seeking behaviour in older adults as it can be the driving force behind assisting ageing-in-place.

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Appendix A: Demographics Statistics of participants

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	99	65	92	72.87	6.102
Med_Con	99	0	8	1.75	1.521
Medications	99	0	17	2.13	2.402
Services	99	1	4	1.45	.704
Valid N (listwise)	99				

Statistics

		Gender	Emp_Status	Emp_Satisfaction
N	Valid	99	99	99
	Missing	0	0	0

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	66	66.7	66.7	66.7
	1	33	33.3	33.3	100.0
	Total	99	100.0	100.0	

Emp_Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2	2.0	2.0	2.0
	1	3	3.0	3.0	5.1
	2	1	1.0	1.0	6.1
	3	2	2.0	2.0	8.1
	4	63	63.6	63.6	71.7
	5	27	27.3	27.3	99.0
	6	1	1.0	1.0	100.0
	Total	99	100.0	100.0	

Emp_Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	88	88.9	88.9	88.9
	1	11	11.1	11.1	100.0
	Total	99	100.0	100.0	

Statistics

Living_Sit

N	Valid	99
	Missing	0

Living_Sit

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	57	57.6	57.6	57.6
	1	35	35.4	35.4	92.9
	3	3	3.0	3.0	96.0
	4	4	4.0	4.0	100.0
	Total	99	100.0	100.0	

Appendix B: Descriptive Statistics for Dependent Variables and Independent Variable

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
HSB	99	13	39	27.35	6.908
Valid N (listwise)	99				

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LLFI	99	40.02	100.00	66.9349	11.08410
FES	99	16	41	21.49	5.894
CDR	99	30	97	80.69	13.828
DSSI	99	12	84	27.51	7.368
SWBS	99	46	120	86.28	18.648
CSS_H	99	3	42	19.78	8.526
CSS_U	99	0	9	2.04	2.338
Valid N (listwise)	99				

Appendix C: Correlation analysis between health-seeking behaviour and the independent variables-SPSS Output

		LLFI	FES	CDR	DSSI	SWBS	CSS_H	HSB
LLFI	Pearson Correlation	1	-.596**	.248**	-.004	-.005	.027	-.144
	Sig. (1-tailed)		.000	.007	.484	.481	.395	.078
	N	99	99	99	99	99	99	99
FES	Pearson Correlation	-.596**	1	-.181*	-.133	.015	-.145	.121
	Sig. (1-tailed)	.000		.037	.094	.440	.077	.117
	N	99	99	99	99	99	99	99
CDR	Pearson Correlation	.248**	-.181*	1	-.246**	.473**	-.218*	.022
	Sig. (1-tailed)	.007	.037		.007	.000	.015	.414
	N	99	99	99	99	99	99	99
DSSI	Pearson Correlation	-.004	-.133	-.246**	1	.117	.133	.011
	Sig. (1-tailed)	.484	.094	.007		.124	.095	.458
	N	99	99	99	99	99	99	99
SWBS	Pearson Correlation	-.005	.015	.473**	.117	1	-.182*	.023
	Sig. (1-tailed)	.481	.440	.000	.124		.036	.410
	N	99	99	99	99	99	99	99
CSS_H	Pearson Correlation	.027	-.145	-.218*	.133	-.182*	1	.396**
	Sig. (1-tailed)	.395	.077	.015	.095	.036		.000
	N	99	99	99	99	99	99	99
HSB	Pearson Correlation	-.144	.121	.022	.011	.023	.396**	1
	Sig. (1-tailed)	.078	.117	.414	.458	.410	.000	
	N	99	99	99	99	99	99	99

**. Correlation is significant at the 0.01 level (1-tailed).
*. Correlation is significant at the 0.05 level (1-tailed).

Appendix D: Multiple Linear Regression-SPSS Output

Descriptive Statistics

	Mean	Std. Deviation	N
HSB	27.35	6.908	99
LLFI	66.9349	11.08410	99
FES	21.49	5.894	99
CDR	80.69	13.828	99
DSSI	27.51	7.368	99
SWBS	86.28	18.648	99

Correlations

		HSB	LLFI	FES	CDR	DSSI	SWBS
Pearson Correlation	HSB	1.000	-.144	.121	.022	.011	.023
	LLFI	-.144	1.000	-.596	.248	-.004	-.005
	FES	.121	-.596	1.000	-.181	-.133	.015
	CDR	.022	.248	-.181	1.000	-.246	.473
	DSSI	.011	-.004	-.133	-.246	1.000	.117
	SWBS	.023	-.005	.015	.473	.117	1.000
Sig. (1-tailed)	HSB	.	.078	.117	.414	.458	.410
	LLFI	.078	.	.000	.007	.484	.481
	FES	.117	.000	.	.037	.094	.440
	CDR	.414	.007	.037	.	.007	.000
	DSSI	.458	.484	.094	.007	.	.124
	SWBS	.410	.481	.440	.000	.124	.
N	HSB	99	99	99	99	99	99
	LLFI	99	99	99	99	99	99
	FES	99	99	99	99	99	99
	CDR	99	99	99	99	99	99
	DSSI	99	99	99	99	99	99
	SWBS	99	99	99	99	99	99

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SWBS, LLFI, DSSI, FES, CDR[b]	.	Enter

a. Dependent Variable: HSB
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.167[a]	.028	-.024	6.991	.028	.536	5	93

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	131.057	5	26.211	.536	.748[b]
	Residual	4545.569	93	48.877		
	Total	4676.626	98			

a. Dependent Variable: HSB
b. Predictors: (Constant), SWBS, LLFI, DSSI, FES, CDR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	26.908	9.739		2.763	.007		
	LLFI	-.077	.081	-.124	-.955	.342	.619	1.617
	FES	.081	.153	.069	.531	.597	.615	1.626
	CDR	.044	.065	.088	.675	.502	.612	1.634
	DSSI	.041	.106	.044	.391	.697	.823	1.215
	SWBS	-.009	.046	-.025	-.206	.838	.692	1.446

a. Dependent Variable: HSB

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	LLFI	FES	CDR	DSSI	SWBS
1	1	5.797	1.000	.00	.00	.00	.00	.00	.00
	2	.085	8.236	.00	.03	.37	.00	.07	.00
	3	.066	9.356	.00	.01	.01	.05	.55	.02
	4	.035	12.819	.01	.14	.02	.00	.02	.52
	5	.012	21.679	.00	.27	.01	.80	.16	.46
	6	.004	38.007	.99	.55	.58	.14	.20	.00

a. Dependent Variable: HSB

Descriptive Statistics

	Mean	Std. Deviation	N
HSB	27.35	6.908	99
LLFI	66.9349	11.08410	99
FES	21.49	5.894	99
CDR	80.69	13.828	99
DSSI	27.51	7.368	99
SWBS	86.28	18.648	99
CSS_H	19.78	8.526	99

Correlations

		HSB	LLFI	FES	CDR	DSSI	SWBS	CSS_H
Pearson Correlation	HSB	1.000	-.144	.121	.022	.011	.023	.396
	LLFI	-.144	1.000	-.596	.248	-.004	-.005	.027
	FES	.121	-.596	1.000	-.181	-.133	.015	-.145
	CDR	.022	.248	-.181	1.000	-.246	.473	-.218
	DSSI	.011	-.004	-.133	-.246	1.000	.117	.133
	SWBS	.023	-.005	.015	.473	.117	1.000	-.182
	CSS_H	.396	.027	-.145	-.218	.133	-.182	1.000
Sig. (1-tailed)	HSB	.	.078	.117	.414	.458	.410	.000
	LLFI	.078	.	.000	.007	.484	.481	.395
	FES	.117	.000	.	.037	.094	.440	.077
	CDR	.414	.007	.037	.	.007	.000	.015
	DSSI	.458	.484	.094	.007	.	.124	.095
	SWBS	.410	.481	.440	.000	.124	.	.036
	CSS_H	.000	.395	.077	.015	.095	.036	.
N	HSB	99	99	99	99	99	99	99
	LLFI	99	99	99	99	99	99	99
	FES	99	99	99	99	99	99	99
	CDR	99	99	99	99	99	99	99
	DSSI	99	99	99	99	99	99	99
	SWBS	99	99	99	99	99	99	99
	CSS_H	99	99	99	99	99	99	99

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	CSS_H, LLFI, DSSI, SWBS, FES, CDR[b]	.	Enter

a. Dependent Variable: HSB
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.470[a]	.221	.170	6.294	.221	4.342	6	92

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1032.086	6	172.014	4.342	.001[b]
	Residual	3644.540	92	39.615		
	Total	4676.626	98			

a. Dependent Variable: HSB
b. Predictors: (Constant), CSS_H, LLFI, DSSI, SWBS, FES, CDR

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	12.641	9.264		1.365	.176		
	LLFI	-.065	.073	-.104	-.888	.377	.618	1.619
	FES	.184	.139	.157	1.318	.191	.600	1.665
	CDR	.084	.059	.167	1.407	.163	.600	1.666
	DSSI	.008	.095	.008	.082	.935	.819	1.221
	SWBS	.009	.041	.024	.216	.830	.686	1.458
	CSS_H	.373	.078	.461	4.769	.000	.907	1.103

a. Dependent Variable: HSB

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	LLFI	FES	CDR	DSSI	SWBS	
1	1	6.649	1.000	.00	.00	.00	.00	.00	.00	
	2	.155	6.543	.00	.00	.02	.01	.00	.01	
	3	.083	8.942	.00	.03	.35	.01	.03	.01	
	4	.064	10.225	.00	.01	.00	.04	.65	.00	
	5	.033	14.301	.01	.16	.03	.00	.00	.53	
	6	.012	23.246	.00	.28	.01	.79	.15	.44	
	7	.004	42.440	.99	.51	.59	.16	.16	.00	

Descriptive Statistics

	Mean	Std. Deviation	N
HSB	27.35	6.908	99
LLFI	66.9349	11.08410	99
FES	21.49	5.894	99
CDR	80.69	13.828	99
DSSI	27.51	7.368	99
SWBS	86.28	18.648	99
CSS_H	19.78	8.526	99

Correlations

		HSB	LLFI	FES	CDR	DSSI	SWBS	CSS_H
Pearson Correlation	HSB	1.000	-.144	.121	.022	.011	.023	.396
	LLFI	-.144	1.000	-.596	.248	-.004	-.005	.027
	FES	.121	-.596	1.000	-.181	-.133	.015	-.145
	CDR	.022	.248	-.181	1.000	-.246	.473	-.218
	DSSI	.011	-.004	-.133	-.246	1.000	.117	.133
	SWBS	.023	-.005	.015	.473	.117	1.000	-.182
	CSS_H	.396	.027	-.145	-.218	.133	-.182	1.000
Sig. (1-tailed)	HSB	.	.078	.117	.414	.458	.410	.000
	LLFI	.078	.	.000	.007	.484	.481	.395
	FES	.117	.000	.	.037	.094	.440	.077
	CDR	.414	.007	.037	.	.007	.000	.015
	DSSI	.458	.484	.094	.007	.	.124	.095
	SWBS	.410	.481	.440	.000	.124	.	.036
	CSS_H	.000	.395	.077	.015	.095	.036	.
N	HSB	99	99	99	99	99	99	99
	LLFI	99	99	99	99	99	99	99
	FES	99	99	99	99	99	99	99
	CDR	99	99	99	99	99	99	99
	DSSI	99	99	99	99	99	99	99
	SWBS	99	99	99	99	99	99	99
	CSS_H	99	99	99	99	99	99	99

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	CSS_H	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: HSB

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	
1	.396[a]	.157	.148	6.376	.157	18.025	1	97	

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	732.855	1	732.855	18.025	.000[b]
	Residual	3943.771	97	40.657		
	Total	4676.626	98			

a. Dependent Variable: HSB
b. Predictors: (Constant), CSS_H

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	21.010	1.626		12.922	.000		
	CSS_H	.321	.076	.396	4.246	.000	1.000	1.000

a. Dependent Variable: HSB

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance	Collinearity Statistics VIF	Collinearity Statistics Minimum Tolerance
1	LLFI	-.154[b]	-1.671	.098	-.168	.999	1.001	.999
	FES	.182[b]	1.960	.053	.196	.979	1.021	.979
	CDR	.114[b]	1.192	.236	.121	.953	1.050	.953
	DSSI	-.043[b]	-.450	.654	-.046	.982	1.018	.982
	SWBS	.098[b]	1.037	.302	.105	.967	1.034	.967

a. Dependent Variable: HSB
b. Predictors in the Model: (Constant), CSS_H

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions CSS_H
1	1	1.919	1.000	.04	.04
	2	.081	4.869	.96	.96

a. Dependent Variable: HSB

Appendix E: Difference in health-seeking behaviour amongst different age groups and gender- SPSS Output

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	Percentiles 50th (Median)
HSB	99	27.35	6.908	13	39	23.00	28.00
01	99	.31	.466	0	1	.00	.00

Mann-Whitney Test

Ranks

	01	N	Mean Rank	Sum of Ranks
HSB	0	68	50.99	3467.50
	1	31	47.82	1482.50
	Total	99		

Test Statistics[a]

	HSB
Mann-Whitney U	986.500
Wilcoxon W	1482.500
Z	-.510
Asymp. Sig. (2-tailed)	.610
Exact Sig. (2-tailed)	.613
Exact Sig. (1-tailed)	.307
Point Probability	.001

a. Grouping Variable: 01

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	Percentiles 50th (Median)	
HSB	99	27.35	6.908	13	39	23.00	28.00	
Gender	99	.33	.474	0	1	.00	.00	

Mann-Whitney Test

Ranks

	Gender	N	Mean Rank	Sum of Ranks
HSB	0	66	52.39	3457.50
	1	33	45.23	1492.50
	Total	99		

Test Statistics[a]

	HSB
Mann-Whitney U	931.500
Wilcoxon W	1492.500
Z	-1.171
Asymp. Sig. (2-tailed)	.242
Exact Sig. (2-tailed)	.244
Exact Sig. (1-tailed)	.122
Point Probability	.001

a. Grouping Variable: Gender

Appendix F: Ethics Approval Letter

Western Research

Date: 21 November 2019

To: Dr. Denise Connelly

Project ID: 114492

Study Title: Health-seeking behaviour related to selected dimensions of wellness in community-dwelling older adults

Application Type: HSREB Initial Application

Review Type: Delegated

Meeting Date / Full Board Reporting Date: 03/Dec/2019

Date Approval Issued: 21/Nov/2019

REB Approval Expiry Date: 21/Nov/2020

Dear Dr. Denise Connelly

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above-mentioned study as described in the WREM application form, as of the HSREB Initial Approval Date noted above. This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
13 Healthcare	Paper Survey		
Awareness of CSS	Paper Survey		
CD-RISC	Paper Survey		
CDT-Cognitive Function Impairment	Paper Survey		
Consent Form and Information letter	Written Consent/Assent	15/Nov/2019	3
DSSI 11item Version	Paper Survey		
FES-I	Paper Survey		
Health Seeking Behaviour	Protocol	17/Aug/2019	
Late Life Function	Paper Survey		
Participant Information Form	Other Data Collection Instruments	29/Aug/2019	
Spiritual Well Being Scale	Paper Survey		

Documents Acknowledged:

Document Name	Document Type
Intro References	References

No deviations from, or changes to, the protocol or WREM application should be initiated without prior written approval of an appropriate amendment from Western HSREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2) ; the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP) ; Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Patricia Sargeant, Ethics Officer (ext. 85990) on behalf of Dr. Philip Jones, HSREB Vice-Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Curriculum Vitae

Name: Navjot Gill

Education: Western University – London, ON
Master of Health and Rehabilitation Science, Physical Therapy
September 2018 – Present

Khalsa College, Amritsar, India
Bachelor of Physiotherapy
July 2013- April 2017

Honors and Awards: Ontario Graduate Scholarship
September 2019- August 2020

Related work experience: TA Physical Therapy Clinicals- II
Western University, London, ON
September 2019- December 2019

TA Mental Health Context in Occupational Therapy
Western University, London, ON
January 2019- April 2019

Physiotherapy Intern
Dayanand Medical College and Hospital, Ludhiana, India
July 2017- January 2018

Publications:

Gill N. and Connelly D. (2020). Health-seeking behaviour related to selected dimension of wellness in community-dwelling older adults. National Geriatrics Interest Group (Fight Against Frailty). Volume 8, Pages- 13-16

Gill N and Kaur K. (2018). A Study on Cardiovascular Fitness of Sedentary College Students of Khalsa College, Amritsar. Human Biology Review, 7 (3), 272-279